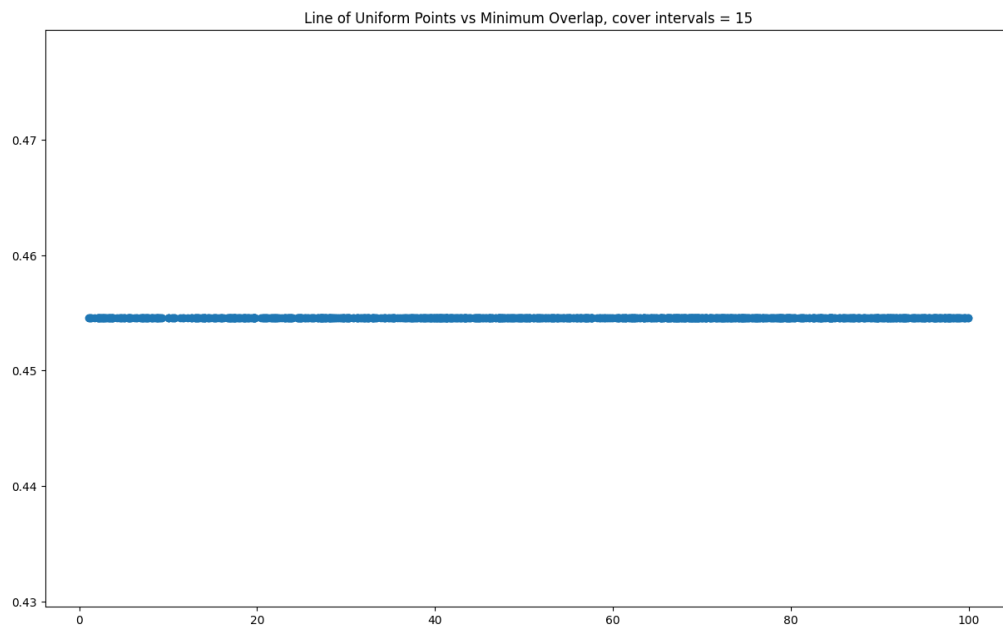# tda graphs

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Figure 1: 20 points, evenly spaced along a line, with the cover set to 15 intervals. Run for 1000 iterations, each with a different distance between points (x axis). This data is somewhat uninteresting because it is the same no matter what.

Figure 2: Points randomly generated on an interval from 1 to 100 (with uniform probability). 20 points were generated per dataset. The graph plots mean distance (x axis) against the minimum overlap. There is no strong trend in the data, though maybe it would appear if more data points were generated? The cover clusters were set to 10, which could also have a stronger impact on outcome.
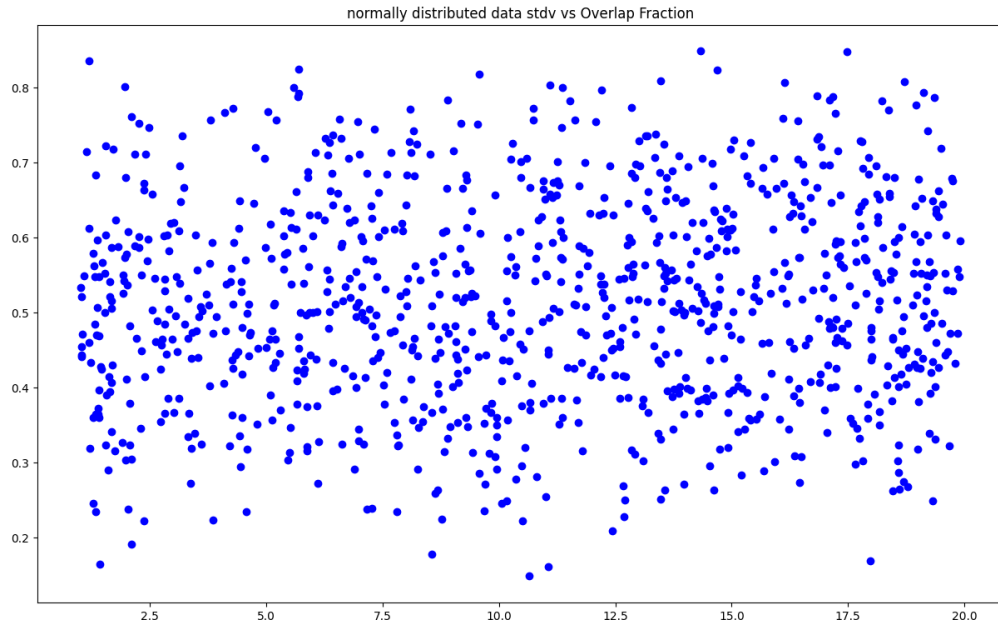
Figure 3: Points generated randomly with normal distribution (using np.random.normal). Each dataset has 100 points, and the x axis plots the standard deviation of each dataset. There is no trend visible in the data, which could be an issue with the generation of the dataset, or have to do with the number of clusters (set to 15).
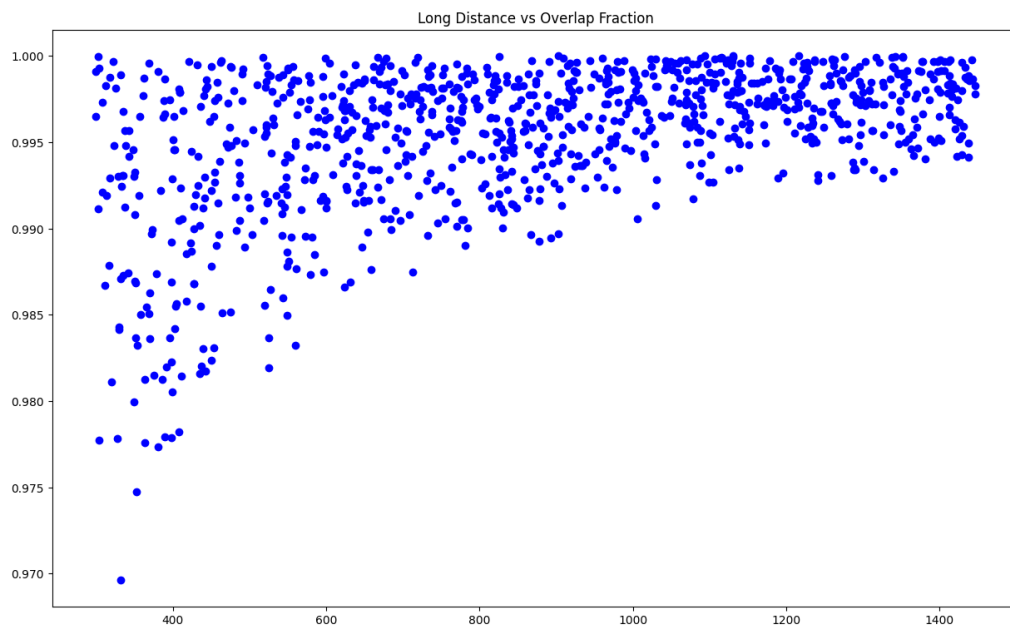
Figure 4: This is just replotting the same data from the csv from the last graph but splitting it into 2D. This is the long distance plot.
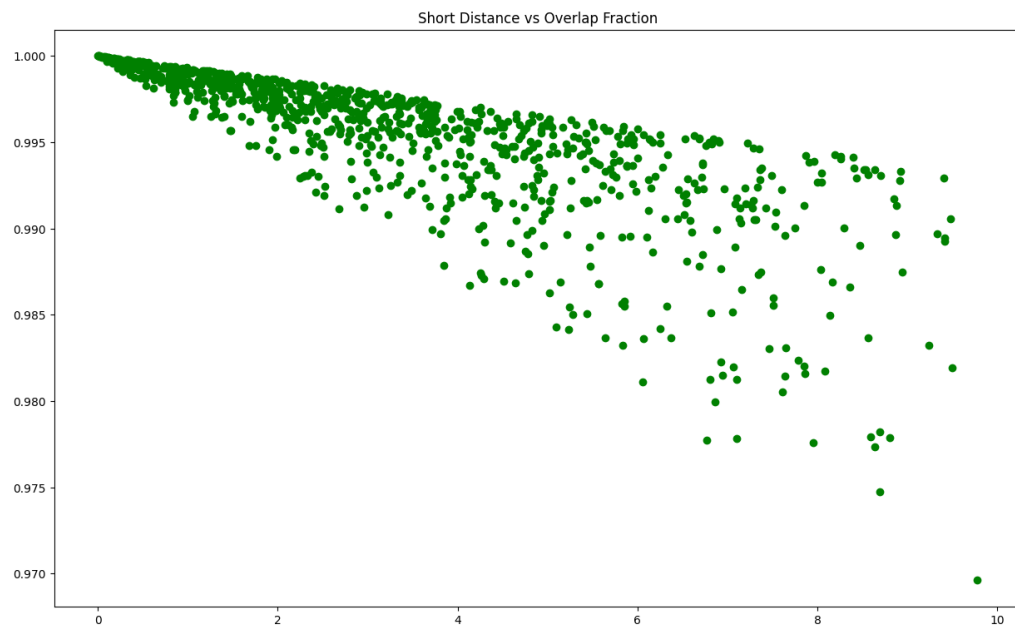
Figure 5: This is just replotting the same data from the csv from the last graph but splitting it into 2D. This is the short distance plot.